

## 39. Meat and Meat Products

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### 39.1.01

**AOAC Official Method 983.18**  
**Meat and Meat Products**  
**Preparation of Sample**  
**Procedure**

To prevent H<sub>2</sub>O loss during preparation and subsequent handling, do not use small samples. Keep ground material in glass or similar containers with air- and H<sub>2</sub>O-tight covers. Prepare samples for analysis as follows:

(a) *Fresh meats, dried meats, cured meats, smoked meats, etc.*-Separate as completely as possible from any bone; pass rapidly 3 times through food chopper with plate openings  $\leq 1/8$ " (3 mm), mixing thoroughly after each grinding; and begin all determinations promptly. If any delay occurs, chill sample to inhibit decomposition.

Alternatively, use a bowl cutter for sample preparation (benchtop model, 1/2 HP; 14 in. bowl, 22 rpm; two 3.5 in. knives, 1725 rpm; Model 84145, Hobart Corp., 711 Pennsylvania Ave, Troy, OH, 45374, or equivalent). Chill all cutter parts before preparation of each sample.

*Food Processor-FirstAction1990.*-Benchtop model, 110/120 V, 60 Hz, 1 hp, 7.5 A, 1725 rpm, fan-cooled motor, 4 qt bowl; Model R4Y, Robot Coupe, USA, Inc., Jackson, MS, or equivalent. (Caution: Do not remove cutter bowl lid or cutter bowl from base until motor has come to full stop. Do not put hand, finger, or any object into bowl while motor is running. Unplug appliance before servicing or cleaning.)

Precut sample, up to 2 lb, to maximum dimension  $\leq 2$  in., and transfer to bowl for processing. Include any separated liquid. Process 30 s, then wipe down inner side wall and bottom of bowl with spatula (use household plastic or rubber spatula with ca 2 in. by 4 in. straight-edge blade) and transfer gathered material to body of sample. Continue processing another 30 s and wipe down as before. Repeat sequence to give total of 2 min processing and 3 wipe downs.

Take particular care with certain meat types such as ground beef to assure uniform distribution of fat and connective tissue. At each wipe-down interval, reincorporate these into sample by using spatula to remove fat from inside surfaces of bowl and connective tissue from around blades. If sample consolidates as ball above blades, interrupt processing and press sample to bottom of bowl with spatula before continuing.

Reference: JAOAC **72**, 777(1989).

(b) *Canned meats.*-Pass entire contents of can through food chopper, bowl cutter or food processor, as in (a).

(c) *Sausages.*-Remove from casings and pass through food chopper, bowl cutter or food processor, as in (a). Dry portions of samples of (a), (b), and (c) not needed for immediate analysis, either in vacuo  $< 60^\circ$  or by evaporating on steam bath 2 or 3 times with alcohol. Extract fat from dried product with petroleum ether (bp  $< 60^\circ$ ) and let petroleum ether evaporate spontaneously, finally expelling last traces by heating

short time on steam bath. Do not heat sample or separated fat longer than necessary because of tendency to decompose. Reserve fat in cool place for examination as in chapter on oils and fats and complete examination before it becomes rancid.

Reference: JAOAC **66**, 759(1983).

### 39.1.02

**AOAC Official Method 950.46**  
**Moisture in Meat**

**A. Drying in Vacuo at 95-100°**  
**--Final Action**

Proceed as in **934.01** (see 4.1.03). (Not suitable for high fat products such as pork sausage.)

**B. Air Drying**  
**--First Action**  
**--Final Action 1991**

(a) With lids removed, dry sample containing ca 2 g dry material 16-18 h at 100-102° in air oven (mechanical convection preferred). Use covered Al dish  $\geq 50$  mm diameter and  $\leq 40$  mm deep. Cool in desiccator and weigh. Report loss in weight as moisture.

(b) With lids removed, dry sample containing ca 2 g dry material to constant weight (2-4 h depending on product) in mechanical convection oven or in gravity oven with single shelf at ca 125°. Use covered Al dish  $\geq 50$  mm diameter and  $\leq 40$  mm deep. Avoid excessive drying. Cover, cool in desiccator, and weigh. Report loss in weight as moisture. (Dried sample is not satisfactory for subsequent fat determination.)

References: JAOAC **33**, 749(1950); **36**, 279(1953).

### 39.1.03

**AOAC Official Method 985.14**  
**Moisture in Meat**  
**and Poultry Products**  
**Rapid Microwave Drying Method**

**First Action 1985**  
**Final Action 1991**

**A. Principle**

Moisture is removed (evaporated) from sample by using microwave energy. Weight loss is determined by electronic balance readings before and after drying and is converted to moisture content by microprocessor with digital percent readout.